

Product Preview

MRFIC2408PP/D
Rev. 0, 08/2002

2.4 GHz RF Power
Amplifier for Bluetooth™
Applications



MRFIC2408



(Scale 2:1)

Package Information

Plastic Package
Case 1408
(QFN-12)

Ordering Information

Device	Marking	Package
PRFIC2408	2408	QFN-12

The MRFIC2408 is a single chip RF Power Amplifier intended for 2.4 GHz ISM Band applications. It can be used to implement Bluetooth™ Class I operation and contains power control circuitry.

- Power Supply Range: 2.7 to 3.6 V
- Power Amplifier Enable/Disable Function
- Over 20 dB of Power Control
- Low Power Shutdown Mode

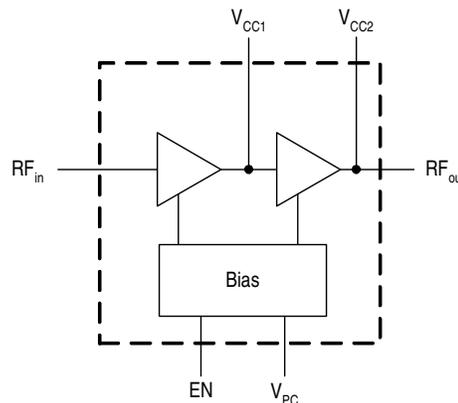


Figure 1. Simplified Block Diagram

Table 1. Maximum Ratings

Ratings	Symbol	Value	Unit
Supply Voltage	V_{CC}	6.0	V
Storage Temperature Range	T_{stg}	-55 to 150	°C
Operating Case Temperature Range	T_C	-40 to 110	°C
Input Signal (PA In)	P_{in}	5.0	dBm

NOTE: Maximum Ratings are those values beyond which damage to the device may occur. Functional operation should be restricted to the limits in the Electrical Characteristics tables.

Table 2. Electrical Characteristics
($V_{CC} = 3.0\text{ V}$, $RF_{in} = 2.0\text{ dBm}$, $f = 2.45\text{ GHz}$, $T_A = 25^\circ\text{C}$)

Characteristic	Conditions	Symbol	Min	Typ	Max	Unit
Quiescent Current	No RF, $V_{EN} = 3.0\text{ V}$, $V_{PC} = 3.0\text{ V}$	I_{CCQ}	-	220	-	mA
Shut-Off Current	No RF, $V_{EN} = 0\text{ V}$, $V_{PC} = 3.0\text{ V}$	I_{CCS}	-	0.001	-	mA
Saturated Output Power	$V_{EN} = 3.0\text{ V}$, $V_{PC} = 3.0\text{ V}$	P_{out}	-	23	-	dBm
Power Gain	$V_{EN} = 3.0\text{ V}$, $V_{PC} = 3.0\text{ V}$	G_P	-	21	-	dB
Disable Isolation	$RF_{in} = 2.0\text{ dBm}$, $V_{EN} = 0\text{ V}$, $V_{PC} = 3.0\text{ V}$	$ S_{21} _{off}$	30	-	-	dB
Harmonics (2f, 3f, 4f)	$V_{EN} = 3.0\text{ V}$, $V_{PC} = 3.0\text{ V}$	f_o	-	-	-25	dB

NOTE: V_{EN} = Enable Voltage and V_{PC} = Power Control Voltage.

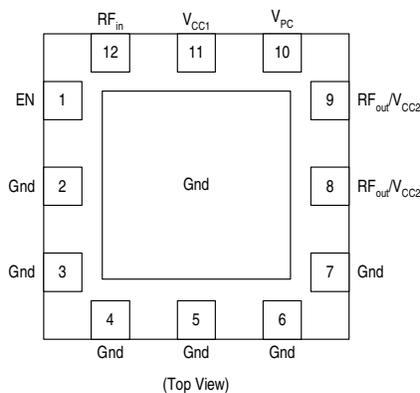


Figure 2. Pin Connections

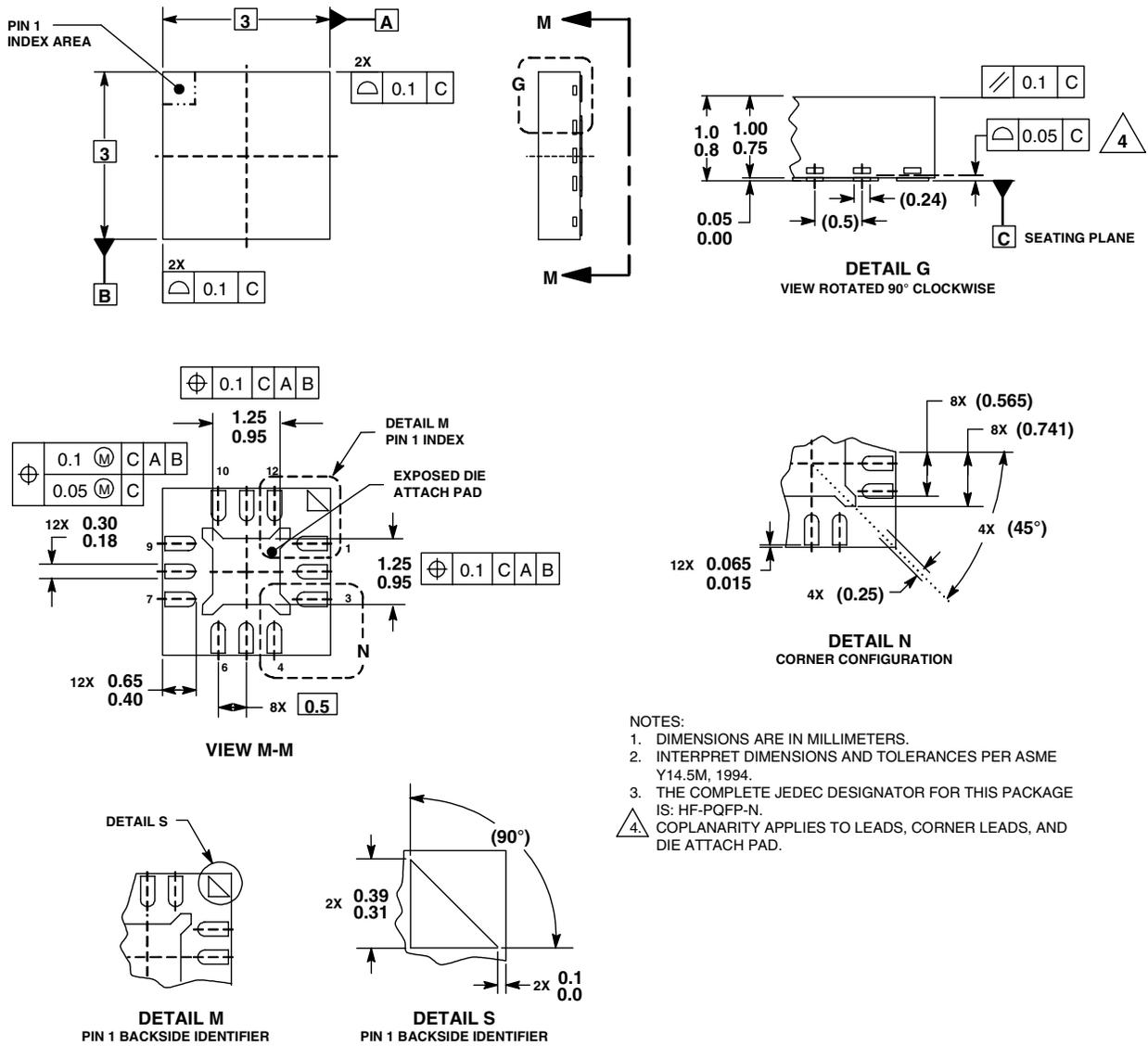


Figure 3. Outline Dimensions for QFN-12, 3x3 mm (Case 1408-01, Issue O)

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Motorola Literature Distribution;
P.O. Box 5405, Denver, Colorado 80217
1-303-675-2140 or 1-800-441-2447

JAPAN:

Motorola Japan Ltd.; SPS, Technical Information Center,
3-20-1, Minami-Azabu Minato-ku, Tokyo 106-8573 Japan
81-3-3440-3569

ASIA/PACIFIC:

Motorola Semiconductors H.K. Ltd.; Silicon Harbour
Centre, 2 Dai King Street, Tai Po Industrial Estate,
Tai Po, N.T., Hong Kong
852-26668334

TECHNICAL INFORMATION CENTER:

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